Space Weather Forecast

Issued on Sunday, 27 February 2022 at 00:36 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

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Space Weather Forecast Headline: Slight chance R1/Minor radio blackouts and minor geomagnetic storms.

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Solar activity was Very Low in the last 24 hours. Two numbered unipolar and simple active regions are on the visible disc, located in the northern hemisphere, and approaching the centre disc. A small and simple, currently un-numbered region, has emerged from plage in the southeast, which will continue to monitored for further developments as it rotates further around onto the visible disc. No Earth-directed Coronal Mass Ejections (CMEs) were observed in available imagery during the past 24 hours.

Solar Wind / Geomagnetic Activity: The solar wind was was initially at slightly elevated levels but decreased gradually towards background levels. The Interplanetary Magnetic Field was weak, and the important north-south component varied weakly. Resultant geomagnetic activity was Quiet (Kp 0-1).

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) is currently at background levels with no solar radiation storms observed.

Four-Day Space Weather Forecast Summary

Solar Activity: Solar activity is forecast to be low or very low, with a continuing slight chance of Common class flares. Risk of Moderate class flares is currently slight (5-10%), but with a probable increase as potential new regions rotate onto the disc.

Solar Wind / Geomagnetic Activity: No Earth-directed CMEs are currently forecast. A series of coronal holes are expected to give occasionally faster solar winds during this period, with winds likely to exceed 500km/s at times. Geomagnetic activity is expected to be Quiet to Unsettled, with a chance of Active periods, and a slight chance of G1/Minor Storm intervals.

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) is expected to remain at background, with no solar radiation storms expected through the period.

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Met Office Space Weather Forecast

Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	10	10	10	10
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	No	20	20	20	20
Very Active	R3 to R5 X	No	1	1	1	1

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	1	1	1	1
Very Active	≥ S3 *	No	1	1	1	1

* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)

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